

Application No. 10/602,692

Amendment dated August 24, 2005

Responsive to Office Action dated April 5, 2005

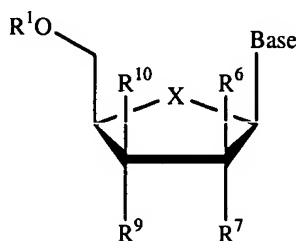
Amendment to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-88 (canceled)

Claims 89 (Currently Amended): A method for the treatment of a flavivirus or pestivirus infection in a host, comprising administering an anti-virally effective amount of a compound of Formula XVII:



(XVII)

or a pharmaceutically acceptable salt or ester thereof, wherein:

Base is a triazolopyridine, imidazolopyridine, or pyrazolopyrimidine;

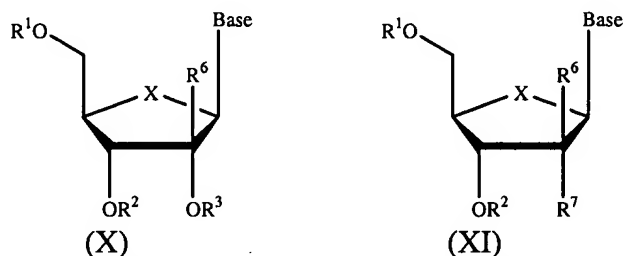
R¹ and R² are independently H; phosphate; a stabilized phosphate prodrug; acyl; alkyl; sulfonate ester; benzyl, wherein the phenyl group is optionally substituted with one or more substituents-moieties selected from the group consisting of hydroxyl, amino, alkylamino, arylamino, alkoxy, aryloxy, nitro, cyano, sulfonic acid, sulfate, phosphonic acid, phosphate, or phosphonate, either unprotected, or protected as necessary; a lipid; an amino acid; a carbohydrate; a peptide; a cholesterol; or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R¹ and R² are independently H or phosphate;

R⁶ is hydroxy, alkyl, azido, cyano, alkenyl, alkynyl, Br-vinyl, -C(O)O(alkyl), ~~-C(O)O(lower alkyl), -O(acyl), -O(lower acyl), -O(alkyl),~~
~~-O(lower alkyl),~~ -O(alkenyl), chloro, bromo, fluoro, iodo, NO₂, NH₂, -NH(lower alkyl), -NH(acyl), -N(lower alkyl)₂, or -N(acyl)₂;

R^7 and R^9 are independently hydrogen, OR^2 , hydroxy, alkyl, azido, cyano, alkenyl, alkynyl, Br-vinyl, $-C(O)O(alkyl)$, ~~$-C(O)O(lower\ alkyl)$~~ , $-O(acyl)$, ~~$-O(lower\ acyl)$~~ , $-O(alkyl)$, ~~$-O(lower\ alkyl)$~~ , $-O(alkenyl)$, chlorine, bromine, iodine, NO_2 , NH_2 , $-NH(lower\ alkyl)$, $-NH(acyl)$, $-N(lower\ alkyl)_2$, or $-N(acyl)_2$;
 R^{10} is H, alkyl, chlorine, bromine or iodine;
 alternatively, R^7 and R^9 , or R^7 and R^{10} can come together to form a bond; and
 X is O, S, SO_2 or CH_2 .

Claims 90-129 (canceled)

Claim 130 (Currently Amended): The method of claim 89 for the treatment of a flavivirus or pestivirus infection in a host, comprising administering an anti-virally effective amount of a compound of Formula X or XI:



or a pharmaceutically acceptable salt or ester thereof, wherein:

Base is a triazolopyridine, imidazolopyridine, or pyrazolopyrimidine;

R^1 , R^2 and R^3 are independently H; phosphate or a stabilized phosphate prodrug; acyl; alkyl; sulfonate ester; or benzyl, wherein the phenyl group is optionally substituted; a lipid; an amino acid; a carbohydrate; a peptide; cholesterol; or other pharmaceutically acceptable leaving group which when administered *in vivo* is capable of providing a compound wherein R^1 , R^2 and R^3 are independently H or phosphate;

R^6 is hydroxy, alkyl, azido, cyano, alkenyl, alkynyl, Br-vinyl, $-C(O)O(alkyl)$, ~~$-C(O)O(lower\ alkyl)$~~ , $-O(acyl)$, ~~$-O(lower\ acyl)$~~ , $-O(alkyl)$, ~~$-O(lower\ alkyl)$~~ , $-O(alkenyl)$, chloro, bromo, fluoro, iodo, NO_2 , NH_2 , $-NH(lower\ alkyl)$, $-NH(acyl)$, $-N(lower\ alkyl)_2$, or $-N(acyl)_2$;

R^7 is hydrogen, OR^3 , hydroxy, alkyl, azido, cyano, alkenyl, alkynyl, Br-vinyl, $-C(O)O(alkyl)$, ~~$-C(O)O(lower\ alkyl)$~~ , $-O(acyl)$, ~~$-O(lower\ acyl)$~~ , $-O(alkyl)$, ~~$-O(lower\ alkyl)$~~ , $-O(alkenyl)$, chlorine, bromine, iodine, NO_2 , NH_2 , $-NH(lower\ alkyl)$, $-NH(acyl)$, $-N(lower\ alkyl)_2$, or $-N(acyl)_2$; and
X is O, S, SO_2 or CH_2 .

Claim 131 (Currently Amended): The method of claim 89 for the treatment of a flavivirus or pestivirus infection in a host, wherein, in the compound of Formula XVII:

R^{10} is H, alkyl, chlorine, bromine or iodine;
 R^7 and R^9 are independently hydrogen, OR^2 , alkyl, alkenyl, alkynyl, Br-vinyl, O-alkenyl, chlorine, bromine, iodine, NO_2 , NH_2 , $-NH(lower\ alkyl)$, $-NH(acyl)$, $-N(lower\ alkyl)_2$, or $-N(acyl)_2$;
 R^6 is alkyl, chlorine, bromine or iodine;
~~alternatively, R^7 and R^9 , or R^8 and R^9 can come together to form a bond;~~ and
X is O, S, SO_2 or CH_2 .

Claim 132 (Previously Presented): The method of claim 89 wherein R^1 is hydrogen or phosphate.

Claim 133 (Previously Presented): The method of claim 89 wherein R^2 is hydrogen, acyl or alkyl.

Claim 134 (Previously Presented): The method of claim 89 wherein R^6 is alkyl.

Claim 135 (Previously Presented): The method of claim 89 wherein R^7 and R^9 are independently hydrogen, OR^2 , or hydroxy.

Claim 136 (Previously Presented): The method of claim 89 wherein R^7 is hydroxy.

Claim 137 (Previously Presented): The method of claim 89 wherein R^9 is hydroxy.

Claim 138 (Previously Presented): The method of claim 89 wherein R^7 and R^9 are hydroxy.

Claim 139 (Previously Presented): The method of claim 89 wherein R^{10} is hydrogen.

Claim 140 (Previously Presented): The method of claim 89 wherein X is O.

Claim 141 (Previously Presented): The method of claim 89 wherein

R^1 is hydrogen or phosphate;

R^2 is hydrogen, acyl or alkyl;

R^6 is alkyl;

R^7 and R^9 are independently hydrogen, OR^2 , or hydroxy;

R^{10} is hydrogen; and

X is O.

Claim 142 (Previously Presented): The method of claim 89, wherein the method comprises administering the compound or a pharmaceutically acceptable salt or ester thereof in combination or alternation with a second anti-flavivirus or anti-pestivirus agent.

Claim 143 (Previously Presented): The method of claim 142, wherein the second anti-flavivirus or anti-pestivirus agent is selected from the group consisting of consisting of interferon, ribavirin, a protease inhibitor, a thiazolidine derivative, a polymerase inhibitor, and a helicase inhibitor.

Claim 144 (Previously Presented): The method of claim 143, wherein the second anti-flavivirus or anti-pestivirus agent is interferon.

Claim 145 (Previously Presented): The method of claim 143, wherein the second anti-flavivirus or anti-pestivirus agent is a protease inhibitor.

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Claim 146 (Previously Presented): The method of claim 143, wherein the second anti-flavivirus or anti-pestivirus agent is ribavirin.

Claim 147 (Previously Presented): The method of claim 89, wherein the compound is in the form of a dosage unit.

Claim 148 (Previously Presented): The method of claim 147, wherein the dosage unit contains 50 to 1000 mg of said compound.

Claim 149 (Previously Presented): The method of claim 147, wherein said dosage unit is a tablet or capsule.

Claim 150 (Previously Presented): The method of claim 89, wherein the host is a human.

Claim 151 (Previously Presented): The method of claim 89, wherein the compound is in substantially pure form.

Claim 152 (Previously Presented): The method of claim 89, wherein the compound is at least 90% by weight of the β -D-isomer.

Claim 153 (Previously Presented): The method of claim 89, wherein the compound is at least 95% by weight of the β -D-isomer.

Claim 154 (Previously Presented): The method of claim 89, wherein the flavivirus or pestivirus is a Dengue virus.

Claim 155 (Previously Presented): The method of claim 89, wherein the flavivirus or pestivirus is a West Nile virus.

Claim 156 (Previously Presented): The method of claim 89, wherein the flavivirus or pestivirus is a yellow fever virus.

Claim 157 (Previously Presented): The method of claim 89, wherein the flavivirus or pestivirus is a bovine viral diarrhea virus (BVDV).

Claim 158 (Canceled).

Claim 159. (New): The method of claim 89, wherein R^6 is methyl.

Claim 160. (New): The method of claim 89, wherein R^6 is CF_3 .

Claim 161. (New): The method of claim 130, wherein the compound is of formula X.

Claim 162. (New): The method of claim 130, wherein the compound is of formula XI.

Claim 163. (New): The method of claim 130 for the treatment of a flavivirus or pestivirus infection in a host, wherein:

R^7 is hydrogen, OR^2 , alkyl, alkenyl, alkynyl, Br-vinyl, O-alkenyl, chlorine, bromine, iodine, NO_2 , NH_2 , $-NH$ (lower alkyl), $-NH$ (acyl), $-N$ (lower alkyl) $_2$, or $-N$ (acyl) $_2$;

R^6 is alkyl, chlorine, bromine or iodine; and

X is O, S, SO_2 or CH_2 .

Claim 164. (New): The method of claim 130, wherein R^1 is hydrogen or phosphate.

Claim 165. (New): The method of claim 130, wherein R^2 is hydrogen, acyl or alkyl.

Claim 166. (New): The method of claim 130, wherein R^6 is alkyl.

Claim 167. (New): The method of claim 130, wherein R^7 is hydrogen, OR^2 , or hydroxy.

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Claim 168. (New) The method of claim 130, wherein R^7 is hydroxy.

Claim 169. (New) The method of claim 130, wherein R^7 and R^2 is hydrogen.

Claim 170. (New) The method of claim 130, wherein X is O.

Claim 171. (New) The method of claim 130, wherein

R^1 is hydrogen or phosphate;

R^2 is hydrogen, acyl or alkyl;

R^6 is alkyl;

R^7 is hydrogen, OR^2 , or hydroxy;

R^{10} is hydrogen; and

X is O.

Claim 172. (New) The method of claim 130, wherein R^6 is methyl.

Claim 173. (New) The method of claim 130, wherein R^6 is CF_3 .

Claim 174. (New) The method of claim 171, wherein R^6 is methyl.